Number 3 July 2011

Flightfax®

Online Report of Army Aircraft Mishaps

Last month we focused on the mission approval process and the issue of maintaining good order and discipline as professional aviators. This month we'll discuss the criticality of performance planning and the use of performance data during mission execution.

Performance planning is a requirement for every flight as stipulated by AR 95-1. However, with the advent of our modernized aircraft, performance data can now be derived from several sources to include the performance charts out of the applicable aircraft operator's manuals (-10s), approved digital performance planning programs, as well as aircraft performance (PERF) pages found on the UH-60M, CH-47F and AH-64D model aircraft. It's essential that performance planning is conducted, considered and discussed prior to each and every mission. Additionally, if the temperature, pressure altitude or gross weight of the aircraft changes significantly during the mission, to continue operating safely, aircrews should know when to re-compute and discuss the performance data as a crew.

Why the emphasis this month on aircraft performance data? Over the course of the last three months, a number of accidents have occurred wherein accident investigators discovered errors in how performance data was prepared or utilized during the flight. These findings ranged from not conducting before take-off power checks to confirm the performance planning data to not locating any referenced performance data at all for the flight. Given the environments in which our Aviation units repeatedly operate, performance planning cannot be overlooked or disregarded.

Historically, the summer months come with an increase in accidents for Army Aviation. As of this date, there have been four (4) Class A accidents in the month of June alone. Calculating and discussing PPC data, conducting before take-off power checks to confirm that data and when appropriate, recalculating and referring to the data while in flight is one of the top preventative measures to help us safely get through the hot summer months.

Take a look at the quote from this month's *blast from the past.* BG Gene M. LaCoste, former Director of Army Safety, was "spot on" concerning his comments on "proper aircraft power management procedures."

Until next month, fly safe! LTC David Fleckenstein, Dir., Air Task Force

Aviation Trends

- **Overconfidence/Complacency**
  - 83% of accidents involved overconfidence
  - 13% of accidents involved complacency
- **Assumption of Low Risk Missions**
  - 61% of accidents occur during the day
  - 30% of accidents happen during training
- **Aircrew Coordination Failures**
  - 28% of accidents involved crew coordination failures
- **Inadequate Mission Planning**
  - Failure to adequately plan for obstacles
  - Power management awareness

Manned Aircraft Accidents

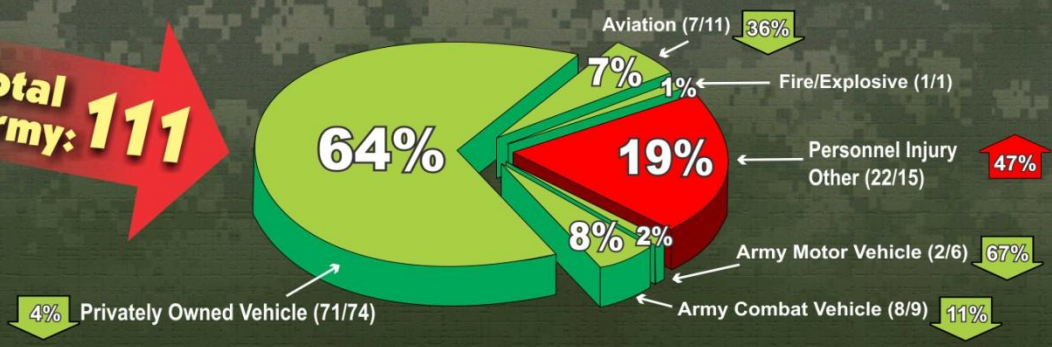
( ) = Army Fatalities

As of 29 June 2011

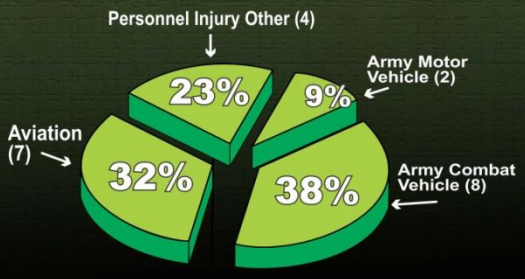
TF11-06E

FY11 Soldier Accidental Fatalities

Total Army: 111



Off Duty: 89



On Duty: 22

* Other POV includes ATV, SUV, Truck, & Van

As of 29 June 2011

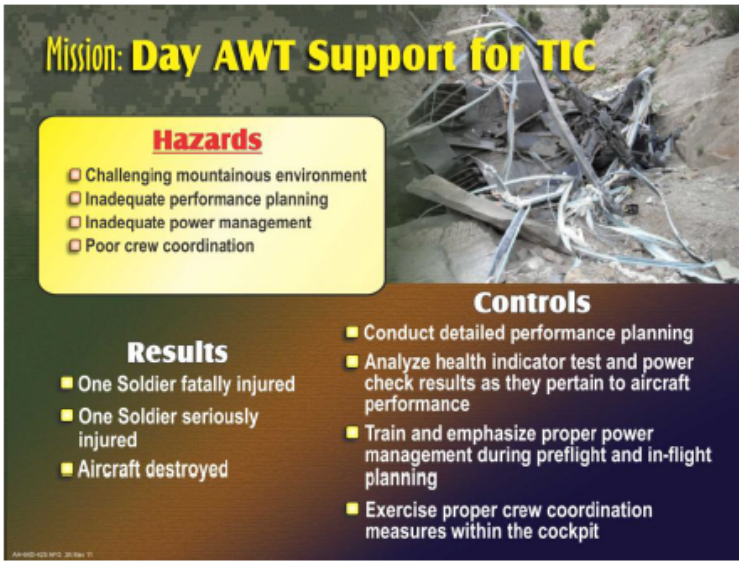
PCC11-12

Major Accident Review (MAR)

RMIS Case # 20110526002

U.S. ARMY COMBAT READINESS/SAFETY CENTER

When encountering restrictive rising terrain at approximately 34 KTAS at 70' AGL, the PC initiated a tight left turn exceeding 50 degrees of bank to escape the rising terrain. During the turn, the rotor drooped to 93%. The PC was able to recover the rotor RPM to 99% before bleeding the rotor again and striking the ground.



Two AH-64D aircraft departed a FOB in support of troops in contact. While en route the ground force passed NAIs located in a number of wadis. The AMC decided to split the team to cover the NAIs as quickly as possible. The lead AH-64D continued up one of the subject wadis into a steep walled, restrictive wadi in rising mountainous terrain at an airspeed of approximately 75 KTAS and at an altitude of 300 to 500 feet AGL. Focused on the reconnaissance mission, the PC allowed the aircraft to slow to approximately 34 KTAS. The aircraft's AGL altitude decreased to 70 feet due to the terrain rising faster than the aircraft could climb. At that point, the PC decided to execute a steep left-hand turn exceeding 50 degrees of bank in an attempt to escape the rising terrain. During the left turn, the aircraft's rotor RPM drooped to 93%. The PC briefly recovered rotor RPM to 99% by establishing a rate of descent he subsequently could not arrest. Approximately 10 seconds before impact, the rotor slowed below 86% causing the generators to drop offline. The aircraft impacted the rocky ground, tearing apart the underside of the aircraft, then impacted a steep rock wall nose first, finally coming to rest on its right side. There were no witnesses to the accident and the trail AH-64D only initiated a search after the accident aircraft did not respond to a radio call.

Findings:

— PC failed to conduct proper in-flight planning
— Aircrew failed to use proper crew coordination
— Aircrew failed to conduct proper preflight planning

Recommendations:

— Emphasize importance of proper power management in preflight and in-flight planning.
— Utilize ACT-E while conducting crew coordination training and emphasize to crewmembers that overconfidence in each other's abilities can adversely affect mission accomplishment.
— Conduct thorough performance planning before flight and maintain vigilance to the effects of changing environmental conditions during the flight.

Major Accident Review (MAR)

RMIS Case # 20100630001

U.S. ARMY COMBAT READINESS/SAFETY CENTER

An AH-64D was conducting a mountain landing at 12,200' when rotor RPM decreased. The aircraft crashed on the mountainside.

Mission: Mountain Training Flight

Hazards

- ❑ Power Limitations
- ❑ Night
- ❑ Pinnacle/Ridgeline Ops

Results

- Two Injuries
- One helicopter destroyed

Controls

- Closely monitor aircraft performance limitations
- Adherence to standards in approach criteria

Accident Summary: An AH-64D was conducting an NVS approach to a mountain HLZ located at 12,200 ft MSL as part of a high-altitude mountain environment training program. On short final to the pinnacle/ridgeline HLZ with only IGE power margins available, the aircraft slowed below ETL. This resulted in an increase in required power which exceeded the available engine power for the environmental conditions. As a result, the aircraft rotor rpm decreased and the aircraft settled and impacted the mountainside while trying to execute an escape plan.

Findings:

- PI failed to maintain airspeed above ETL while still in an OGE condition in contravention to task 1058 in TC 1-251 which resulted in the aircraft exceeding its performance capabilities.

- IP failed to initiate corrective action in a timely manner to avoid the hazards associated with a slow VMC approach in OGE conditions to a pinnacle/ridgeline IAW Task 1058 in TC 1-251.

Recommendations:

- Ensure aircrews operate aircraft within the required aircraft performance capabilities and flight limitations.

- Ensure all pilots in a leader or supervisory role take appropriate and timely actions to prevent or stop violations of safe operations.

- Update the unit risk assessment worksheet to reflect the varying increased risks associated with mountainous operations.

Selected Aircraft Mishap Briefs

Information based on Preliminary reports of aircraft mishaps reported in June 2011.

Utility helicopters

MH-60L

- Aircraft sustained damage to the FLIR turret, PLS antenna, and undercarriage as the result of rapid descent. (Class C)

Attack helicopters

AH-64D

- Crew experienced an in-flight emergency during cruise flight at 11,300 feet MSL, 85 KTAS, and was able to land with major damage. (Class A)

Observation helicopters

OH-58D

- Crew reportedly experienced a control malfunction during hovering flight and aircraft descended to ground impact. (Class A)

- Aircraft crashed during combat operations. (Class A)

Cargo helicopters

CH-47

- D series. Aircraft was conducting a combat night insertion of ground troops into a non-standard HLZ in support of a deliberate operation. Aircraft was chalk 2 of 2 in the second lift of the operation when the aircraft suddenly descended while on short final and had a hard landing. (Class A)

- F series. The aircrew experienced severe brown-out conditions and upon touchdown, the aircraft contacted a ditch causing significant damage to the forward portion of the aircraft. The front right main landing gear was sheared off with suspected damage to the structural members and airframe buckling. (Class B)

- F series. Rotor wash damaged the rotor blades of a parked UH-60. (Class C)

Unmanned Aircraft Systems

RQ-7B

- The UA experienced instability during landing attempts and was allowed to expend fuel before descending with the recovery chute. (Class C)

- The UA descended during training flight due to suspected ignition/generator failure. The recovery chute was deployed and UA was recovered with damage. (Class C)

- During a recon mission, the UA experienced engine failure and crashed resulting in damage. (Class C)

- The UA experienced engine failure and crashed. UA was recovered. (Class C)

- The UA experienced overtemp conditions. FTS was deployed and UA sustained damage. (Class C)

PUMA

- The UA was flying recon and lost link with ground control station. UA was not recovered. (Class C)

Aerostat

- The tether broke while lowering in gusty winds. Payload damaged. (Class B)

- Five additional aerostat reports pending.

- One RQ-16 report pending.

Class A - C Mishap Tables

	FY 11 Manned Aircraft Class A – C Mishap Table									
	Month	FY 10					FY 11			
		Class A Mishaps	Class B Mishaps	Class C Mishaps	Army Fatalities		Class A Mishaps	Class B Mishaps	Class C Mishaps	Army Fatalities
1st Qtr	October	4	1	3	1		1		3	
	November	1		5	2		0	2	12	
	December		1	4			2	1	4	4
2nd Qtr	January		2	3					7	
	February	2	2	9	5			2	2	
	March	2		4			2	1	5	
3rd Qtr	April	2	1	5	1		2	1	8	
	May	1	2	2	1		2	2	2	1
	June	6		5	1		4	1	1	2
4th Qtr	July	1	2	4						
	August	2	2	5						
	September	2	1	5	5					
	Total for Year	23	14	54	16	Year to Date	13	10	44	7

As of 29 Jun 11

FY 11 UAS Class A – C Mishap Table									
	FY 10 UAS Mishaps					FY 11 UAS Mishaps			
	Class A Mishaps	Class B Mishaps	Class C Mishaps	Total		Class A Mishaps	Class B Mishaps	Class C Mishaps	Total
MQ-1	2		1	3	W/GE	1		1	2
MQ-5	3			3	Hunter	3		1	4
RQ-7		14	21	35	Shadow		7	15	22
RQ-11					Raven			1	1
RQ-16A			1		T- Hawk			2	2
MQ-18A	1								
SUAV								1	1
Aerostat		2	2	4		6	5		11
Total Year	6	16	25	46	Year to Date	10	12	21	43

As of 29 Jun 11

Blast From The Past

articles from the archives of past Flightfax issues

DASAF Safety Alert: Power Management

Article from September 1999 Flightfax

As a result of a number of recent Class A aviation accident investigations throughout the Army, U.S. Army Safety Center (USASC) personnel have noticed an increased number of mishaps caused by a lack of proper aircraft power-management procedures. Army aviators have become conditioned to the benefits of seemingly unlimited power from modern multi-engine aircraft often operated at low pressure/density altitudes and temperatures.

An organization may find itself deployed to an area very environmentally different from home base, operating in both high pressure/density altitudes and temperatures. These conditions, along with the high gross weights associated with many mission profiles, may result in less power available to the aircrew. The process of confirming power requirements with power available requires continual awareness and constant performance planning.

Aircraft performance is predictable for any given environmental condition provided the planning data is accurately calculated and applied through appropriate power checks. However, performance planning is not enough. Aviators must also understand exactly how power-limited aircraft will perform during all phases of the assigned mission.

Training is the key to success in preventing mishaps involving power-management procedures. Instructor pilots and unit trainers need to emphasize the importance of proper aircraft performance planning as well as the application of that data to the mission. Aviators brought up on the latest generation aircraft must be made aware of the limitations of the aircraft they are operating. In the end, it is incumbent upon leaders to ensure timely, effective training and rigorous enforcement of standards.

-BG Gene M. LaCoste, Director of Army Safety, (Sept. 1999)

U.S. ARMY COMBAT READINESS/SAFETY CENTER

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